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EXAMINER

EGWIM, KELECHI CHIDI

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 11/08/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/623,487

Applicant(s)

ZHOA ET AL.

Examiner

Dr. Kelechi C. Egwim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 9-11, 13 and 15-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-11, 13 and 15-42 is/are rejected.
- 7) ☒ Claim(s) 9, 15, 22 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 9, 15, 22 and 23 are objected to because of the following informalities:

In claim 9, line 8, there should be a comma between "itaconic acid" and "an anhydride".

In line 1 of each of claims 15, 22 and 23, the term "wherein" should be replaced with "with" and the terms "pvc" should be surrounded with parentheses in order to more clarify the claim language. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16, 17 and 25-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 16 recites the limitation "the copolymer according to Claim 9". However there is insufficient antecedent basis for this limitation in the claim since claim 9 is directed to "an emulsion paint". Claim 17 depends <sup>on</sup> form claim 16.

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5. Claims 25-27 each recite the limitation "said monoethylenically unsaturated carboxylic acid" in claim 9. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 34, 35 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Plamondon et al.

In col. 1, lines 9-11, col. 2, lines 10-15, col. 6, lines 45-60, col. 8, lines 15-18, col. 9, lines 40-49 and the examples, Plamondon et al. teach an emulsion latex polymer bound back-coating or finish coat compositions prepared by combining a multistage polymer with pigments (exemplified by titanium dioxide, which is also an inorganic filler) and other customary auxiliaries, wherein the multistage polymer has Tg's from +60 °C and lower, and is polymerized from:

- a. up to about 2%, based on the total monomer composition weight, of a "latent crosslinking monomer" exemplified by itaconic acid; and
- b. preferably at least 70% of alkyl (meth)acrylate esters;
- c. wherein no acrolein is required.

Thus, the requirements for rejection under 35 U.S.C. 102(b) are met.

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8. Claims 34-38 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Baumstark et al.

In col. 3, lines 57-65, col. 6, lines 6-13, col. 7, lines 52-66 and claims 1-3 and 18-20, Baumstark et al. teach emulsion polymer bound coating compositions prepared by combining pigments (typically titanium dioxide) and other customary auxiliaries and a polymer, which may be prepared in a multi-step process, with minimum film forming temperatures (MMFT--related to transition temperature) less than 10°C, which is polymerized from

- a. up to 1 part by weight, based on the total monomer composition, of an acid monomers such as itaconic acid; and
- b. the balance being the combination of monomers such as alkyl (meth)acrylate ester and vinyl-aromatic monomers;

wherein the coatings have a p.v.c. of preferably more that 60%.

Thus, for the overlapping Tg/MMFT, the requirements for rejection under 35 U.S.C. 102(e) are met.

9. Claims 9-11, 13, 16-21, 24-29, 32-35, 39 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Fölsch et al.

In col. 2, lines 12-18, col. 3, lines 41-50, col. 4, lines 5-29 and 48-52 and col. 5, lines 20-33, Fölsch et al. teach polymer bound coating agents prepared by combining pigments (small genus of inorganic and organic pigments), other customary auxiliaries and an emulsion polymer binder, optionally produced in multiple stages, comprising a

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polymer having dynamic softening temperatures (related to transition temperature)

ranging from  $-20$  to  $+20$  °C, which contain in polymerized form:

- a. 0.1 to 5%, based on the total monomer composition weight, of a crosslinking monomer such as itaconic acid;
- b. 1 to 20% of urea group containing monomers;
- c. at least 60% of monomers such as alkyl (meth)acrylate esters, vinyl esters and styrene;
- d. wherein no acrolein is required.

10. Claims 9-11, 13, 15-21, 24-29, 32-36, 39 and 42 are rejected under 35

U.S.C. 102(b) as being anticipated by Désor et al. (EP 709 441)

In col. 1, lines 5-10, col. 2, lines 25-67, col. 3, lines 6-11, col. 4, lines 48-65 and col. 5, lines 6-12 of US 5,681,880, which is the English translation of EP 709 441, Désor et al. teach coating compositions comprising emulsion polymer binders, optionally produced in multiple steps, comprising a polymer having preferable minimum film forming temperatures ranging from  $0^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ , which contain in polymerized form:

- a. 0.5 to 5%, based on the total monomer composition weight, of an acid monomer such as itaconic acid;
- b. 0 to 20% of wet adhesion monomers such as uredo (urea) group containing monomers; and
- c. 70 to 99.7% of monomers such as alkyl (meth)acrylate esters, vinyl esters and styrene;

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d. wherein no acrolein is required; and  
wherein the compositions may further comprise pigments such as titanium dioxide and other customary auxiliaries.

Thus, for the overlapping composition and Tg, the requirements for rejection under 35 U.S.C. 102(b) are met.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 40 and 41 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, 35 U.S.C. 103(a) as being unpatentable over Baumstark et al. and claims 30, 31, 40 and 41 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, 35 U.S.C. 103(a) as being unpatentable over Désor et al.

para. 8

para. 10

While Baumstark et al. or Désor et al. do not expressly teach the wet abrasion resistance of their product coating composition, it is reasonable that the coating compositions produced in Baumstark et al. or Désor et al. would inherently possess the presently claimed wet abrasion resistance since, the process of Baumstark et al. or Désor et al. is essentially the same, composition as the claimed process and the product would be the same. The USPTO does not have at its disposal the tools or facilities deemed necessary to make physical determinations of the sort and, in any event, an

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otherwise old composition is not patentable regardless of any new or unexpected properties. In re Fitzgerald et al, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112 - § 2112.02.

Even if assuming that the prior art references do not meet the requirements of 35 U.S.C. 102, it would still have been obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at the same inventive composition because the disclosure of the inventive subject matter appears within the generic disclosure of the prior art.

13. Claims 36-38, 40 and 41 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, 35 U.S.C. 103(a) as being unpatentable over Plamondon et al. and claims 15, 22, 23, 30, 31, 36-38, 40 and 41 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, 35 U.S.C. 103(a) as being unpatentable over Fölsch et al.

While Plamondon et al. or Fölsch et al. do not expressly teach the pigment binding capacity (pvc) or wet abrasion resistance of their product coating composition, it is reasonable that the coating compositions of Plamondon et al. or Fölsch et al. would inherently possess the presently claimed pigment binding capacity (pvc) or wet abrasion resistance since these properties are ultimately determined by the choice and weight ratio of monomers used to prepare the polymers and the monomers and quantities used in Plamondon et al. or Fölsch et al. are essentially the same as those used in the claimed process. The USPTO does not have at its disposal the tools or facilities



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deemed necessary to make physical determinations of the sort and, in any event, an otherwise old composition is not patentable regardless of any new or unexpected properties. In re Fitzgerald et al, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112 - § 2112.02.

Even if assuming that the prior art references do not meet the requirements of 35 U.S.C. 102, it would still have been obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at the same inventive composition because the disclosure of the inventive subject matter appears within the generic disclosure of the prior art.

14. Claims 9-11, 13 and 15-42 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, 35 U.S.C. 103(a) as being unpatentable over Knutson (USPN 5,118,749) or Farwaha et al. (USPN 5,455,298) for reason cited below.

In col. 3, lines 8-45, col. 4, lines 24-56, col. 9, lines 8-31 and col. 10, lines 1-9, Knutson teaches polymer bound emulsion paints prepared by combining pigments (exemplified by titanium dioxide), other customary auxiliaries and polymer binders that contain in polymerized form:

- a. 0.1 to 10%, based on the total monomer composition weight, of an acid monomer such as itaconic acid;
- b. 0.1 to 5% of wet adhesion monomers such as urea group containing monomers; and
- c. preferably more than about 75% of alkyl (meth)acrylate esters;

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- d. wherein no acrolein is required.

In col. 3, lines 6-32 and 55-65 and col. 5, lines 23-28, Farwaha et al. teach polymer bound pigmented coatings prepared by combining pigments, such as titanium dioxide, other customary auxiliaries and emulsion polymer binders which contain in polymerized form:

- a. 1 to 3%, based on the total monomer composition weight, of an acid monomer such as itaconic acid;
- b. 0.2 to 2.0% of wet adhesion monomers such as uredo (urea) group containing monomers; and
- c. the balance of alkyl (meth)acrylate esters or styrene monomers;

wherein the coating composition has a high pigment binding capacity (p.v.c.). See col. 3, lines 19-22

While Knutson or Farwaha et al. do not expressly teach the Tg's of the binder polymers in their coating compositions, it is reasonable that the Tg's of the binders in Knutson or Farwaha et al. would inherently possess the presently claimed Tg's since the Tg's of the polymers are determined by the choice and weight ratio of monomers used to prepare the polymers and, for the overlapping composition, the polymers of Knutson or Farwaha et al. have essentially the same composition as the claimed binder polymers. The USPTO does not have at its disposal the tools or facilities deemed necessary to make physical determinations of the sort and, in any event, an otherwise

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old composition is not patentable regardless of any new or unexpected properties.

Further, while Knutson or Farwaha et al. do not expressly teach the pigment binding capacity (pvc) or wet abrasion resistance of their product coating composition, it is reasonable that the coating compositions of Knutson or Farwaha et al. would inherently possess the presently claimed pigment binding capacity (pvc) or wet abrasion resistance since these properties are also determined by the choice and weight ratio of monomers used to prepare the polymers and the monomers and quantities used in Knutson or Farwaha et al. are essentially the same as those used in the claimed process. The USPTO does not have at its disposal the tools or facilities deemed necessary to make physical determinations of the sort and, in any event, an otherwise old composition is not patentable regardless of any new or unexpected properties. In re Fitzgerald et al, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112 - § 2112.02.

Even if assuming that the prior art references do not meet the requirements of 35 U.S.C. 102, it would still have been obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at the same inventive composition because the disclosure of the inventive subject matter appears within the generic disclosure of the prior art.

***Response to Arguments***

15. Applicant's arguments filed 9/19/02 have been fully considered but they are not persuasive.

16. Regarding applicant's arguments against Fölsch et al. or Désor et al., as stated above, Fölsch et al. teach 0.1 to 5%, based on the total monomer composition weight, of a monomer such as itaconic acid; and Désor et al. teach 0.5 to 5% of itaconic acid. This is believed to be sufficient to warrant a rejection under 102 since the range claimed by applicant (from 0.5 to 1.0%) falls well within the range taught by each of the prior art references. Even if specific examples within the narrower range are not disclosed in the references, the composition is still taught by Fölsch et al. or Désor et al. and anticipatory teachings are not limited to the examples. See *Ex parte Lee*, 31 USPQ 2d 1105 (Bd. Pat. App. & Inter. 1993). See MPEP § 2131.03.

17. In response to applicant's arguments that Fölsch et al. or Désor et al. do not recite a method of improving wet abrasion resistance, the recitation of a method of improving wet abrasion resistance has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, **the process steps or structural limitations are able to**

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**stand alone.** See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

18. Further, with regard to Fölsch et al., Knutson or Farwaha et al., it is noted that what applicant refers to in the argument's as long lists of monomers consist of only five monomers in Fölsch et al. (see col. 4, lines 51-52), only six monomers in Knutson (see col. 4, lines 27-30), and only seven monomers in Farwaha et al. (see col. 3, lines 25-27), and are, at worst, small genii that clearly place the invention in the possession of the public as in *In re Schaumann*, 572 F.2d 312, 197 USPQ 5 (CCPA 1978). When the species is clearly named, the species claimed is anticipated no matter how many other species are additionally named. Ex parte A, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990)." Whether or not the species is disclosed as being preferred, the references still anticipate the claims, and thus unexpected properties were immaterial. *In re Sivaramakrishnan*, 213 USPQ 441 (CCPA 1982) (emphasis added). (See MPEP 2131.02)

19. Regarding claims 22, 23, 37 and 38, as stated above, it is still reasonable that the prior art coating compositions would inherently possess the presently claimed pigment binding capacity (pvc) since pvc is a property of the polymers and the prior art polymers are essentially the same as the claimed polymers products.

Further regarding Baumstark et al. and the rejection of claims 37 and 38, it is noted that the features upon which applicant relies (i.e., the monomer with the urea

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group) are not required in these claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kelechi C. Egwim whose telephone number is (703) 306-5701. The examiner can normally be reached on M-T (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

A handwritten signature in black ink, appearing to be 'KCE', with a long, sweeping horizontal line extending to the right.

KCE  
November 4, 2002